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Henning Gerder

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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HENNING GERDER, ANDREAS KRAUS,
and GOTZ KULLIK

Appeal 2009-002642
Application 10/737,202
Technology Center 3700

Oral Hearing Held: August 4, 2009

Before LORA M. GREEN, FRANCISCO C. PRATS, and STEPHEN G.
WALSH, *Administrative Patent Judges*.

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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PROCEEDINGS

MS. BOBO-ALLEN: Calendar No. 7, Appeal 2009-2642,
Mr. McGlew.

1 JUDGE GREEN: Good morning.

2 MR. MCGLEW: Good morning.

3 JUDGE GREEN: I do have a request. If you have a card, if you
4 could give it to the court reporter I'd appreciate it.

5 MR. MCGLEW: Sure. Absolutely.

6 JUDGE GREEN: And if you have a cell phone, could you please turn
7 it off because it interferes with his equipment.

8 MR. MCGLEW: It is off. Thank you.

9 JUDGE GREEN: Thank you. I think we're starting with the 2009-
10 2642. That's the --

11 MR. MCGLEW: Gerder, et al. 10/737,202 is the serial number?

12 JUDGE WALSH: Yes.

13 JUDGE GREEN: Yes.

14 MR. MCGLEW: Thank you.

15 JUDGE GREEN: And we are familiar with your -- with the case.
16 We're familiar with the issues, and you have 20 minutes, whenever you
17 would like to begin.

18 MR. MCGLEW: Yes, thank you. Yes, so the invention is a breathing
19 gas tube for a respirator, and just briefly, the basics of three different sets of
20 claims. The basics of the device claim is that it is a breathing tube. It has a
21 sensor at its end. It has a signal line, and then it has a contactless interface
22 between the signal line and the sensor. And the system claim is a little more
23 specific to a respirator, also known as a ventilator, all used in the medical
24 arts.

25

1 There is a detailed statement of the disagreement over the level of
2 skill in the art that's presented in the briefs. Certainly there is also a
3 disagreement between Applicant and the Examiner in rejecting the
4 application based on the scope and content of the art. There is a
5 disagreement particularly as to what is it that is known or taught by
6 Applicant's admitted prior art.

7 The Bahr, B-a-h-r, reference is very straightforward. It is certainly in
8 exactly -- with the invention. It talks about a ventilator 40, and the ventilator
9 40 is the same as a respirator and it has a breathing tube, and it goes to a
10 device that generates a signal. And the breathing tube has certainly a signal
11 line along it, and then it has at the physical coupling, for example, the
12 physical coupling between the tube and the device that generates the signal,
13 it has electrical contacts, and electrical contacts are contacts that require
14 physical contact between one side of the contact and the other. So Bahr is
15 relatively straightforward and is basically directed at the idea of avoiding
16 extra lines and using the path of the breathing tube as the path for the signal.

17 The rejection is based on those teachings and the concept that
18 swapping out physical contacts with a non -- excuse me, a contactless
19 interface is obvious, and to do this the Examiner turns to Applicant's
20 admitted prior art, and it appears that it's the Examiner's position that the
21 prior art that we have admitted is the interface claimed, that there is simply a
22 movement of the interface claimed from the realm of the prior art into the
23 device of Bahr and removing the physical electrical contacts. I have read
24 what the representative stated many times in responding to the first office
25 action and is now what is characterized as Applicant's admitted prior art.

1 My position, and I think it's clear in reading it over again and over again, as
2 I have many times, that the concept of a contact coupling, in particular an
3 inductive interface or inductive coupling, is known, and certainly as far as
4 level of skill in art, I would say all engineers that have taken circuits know
5 that an inductor having a current passing through it generates a magnetic
6 field, and a similar coil position nearby will have a current induced in it. So
7 that's certainly the general concept.

8 But the Applicant went beyond indicating what the general concept of
9 inductive coupling is and indicated that examples are the transformers and
10 radio antenna to antenna signaling. Now these are very general concepts,
11 and I think it is at this point that our disagreement goes to the case law, and
12 the Examiner uses KSR with the concept of moving or mere substitution of
13 one device for another. Well, if the prior art has a contactless interface in
14 the realm of a device that is in physical contact with another device, the
15 sensor, our case we have a tube, in contact with the sensor and yet wants a
16 contactless signaling from one to the other, that might -- in that case, that
17 teaching might be one which can be a substitution of one teaching for
18 another.

19 But instead, Applicant's admitted prior art is a general teaching of the
20 concept of induction, and the examples are a transformer, and a transformer
21 is typically used to step up voltage or step down voltage. It's used for signal
22 conditioning. It's not used, as far as I know in the prior art that I have in
23 front of me, with one part on one device and another part on another device
24 where the devices are in physical contact, and yet care is taken to go out of
25

1 the way to have a signal that does not require physical contact, does not
2 require contact such as in Bahr.

3 Now as I noted, Bahr is excellent prior art, but it is the starting point
4 of the invention. The Inventors were dealing with Bahr-type technology,
5 and they came to the conclusion that there were significant problems with
6 Bahr relating to the need to sterilize these breathing tubes. Certainly you
7 can throw them away, but then you're throwing away something with
8 expensive wiring and possibly copper, gold, silver, some type of conductive
9 contact. However, when you subject these tubes to severe cleaning,
10 autoclaving, high-temperature cleaning, these metal pieces are in fact
11 subjected to that treatment, and the metal pieces are on the surface and they
12 are meant for physical contact.

13 On the other side of -- another side of the problem is that these
14 physical contact parts are in the same zone as the actual physical connection
15 of the two parts. The signal generator structure 22 is connected to the hose 2
16 of Bahr by a connection, a female-male connection. This same zone then
17 abrades or hurts and harms the metal contact that's provided in Bahr. So it's
18 the inventors that have run into these problems.

19 You know, KSR might be properly used if there was a known
20 problem for which an obvious solution is encompassed by the claims. So is
21 a transformer dealing with this problem, is the problem even known? What
22 is an analogous known problem?

23 JUDGE WALSH: On that point, if you have a copy of the Bahr.

24 MR. MCGLEW: Right. I certainly do.

25 JUDGE WALSH: That would be -- could you look at paragraph 27?

1 MR. MCGLEW: Right, right.

2 JUDGE WALSH: And address why the reference in paragraph 27 to
3 a fiber optic transmission would not be pertinent to, for example, claim 2?

4 MR. MCGLEW: All right. Well, let me just see that. Now it is a
5 fiber optic transmission line, so it would be pertinent to the claim that deals
6 with the line being fiber optic. Correct me if I'm wrong, but I don't see in
7 this passage, and we've focused on this passage quite a bit, is the lines may
8 be fiber optic -- optical fibers or acoustic wave guides, but that does not say
9 anything about the transmission of the signal from one side to the other.
10 Now I don't see that this teaches that there will be a gap formed and some
11 kind of optical device which transmits the signal from the end of the tube,
12 which is the nature of the claim, to the sensor on the tube.

13 JUDGE WALSH: I guess if that -- if there were such a teaching that
14 might have been grounds for anticipation.

15 MR. MCGLEW: Well, that would certainly -- I think that would
16 address the general concept of a contactless interface, and it would certainly
17 not go to the inductive interface which --

18 JUDGE WALSH: So there --

19 MR. MCGLEW: -- I've been sort of focusing on right now. But
20 absolutely.

21 JUDGE WALSH: My question would be then if someone were to use
22 the optic line for transmission, as indicated by Bahr, then in order to get the
23 signal across this gap, they would need some kind of interface?

24 MR. MCGLEW: They'd need some kind of interface, but there's no
25 reason not to presume that would be an electrical contact interface.

1 JUDGE WALSH: So you'd have a transducer on one side and a
2 transducer on the other.

3 MR. MCGLEW: Well, or would you have some type of optical jump
4 which is not necessarily straightforward. My experience with fiber optic
5 cables is that you don't have any gap unless there's switching or some kind
6 of elaborate need.

7 So that is I think an interesting question. It certainly goes to the signal
8 line comprises a fiber optic wave guide, but it does not go to a coupler or a
9 coupling interface for getting the signal from one part to another part in a
10 contactless manner.

11 JUDGE WALSH: I guess the question that we have to answer is
12 whether it would have been obvious to someone of ordinary skill using that
13 particular Bahr embodiment to use a contactless interface?

14 MR. MCGLEW: Right, and I would say no, absent some teaching
15 that shows that, shows how you do that. That's just hanging out there in the
16 abstract that it can be a fiber optic line. It is very much known to use fiber
17 optic lines, transform them to electrical and then use electrical lines. The
18 sensor is not going to necessarily run on an electrical line. So where does
19 one put the device for transducing electrical signals into light signals?

20 I think what your -- what your discussion requires is the jump that oh,
21 it would be at a coupling between the two devices. On the other hand, it
22 could also be that the sensors run completely electrically which is normal. It
23 wouldn't be running on -- it wouldn't necessarily be generating light signals,
24 or it could be generating light signals. But those are the teachings that are
25 lacking and missing.

1 And I believe there is certainly a teaching somewhere in the fiber
2 optic art relating to jumping gaps, but that, you know, is speculation.

3 So back to Applicant's admitted prior art, if I may for a second, we
4 talk about transformers and how they're physically spaced coils and radio
5 antennas. My position it's -- KSR is misapplied, because it's not at all clear
6 that there was a known problem for which an obvious solution is then moved
7 over to what is claimed. With the invention, the physical connection of the
8 hose and sensor are part of what's going on. In the general teachings of the
9 prior art, there is some type of conditioning of signals, some type of acting
10 on signals. There is really no general teaching of using it as jumping a gap
11 to relay a signal in a contactless manner especially in a realm where the parts
12 are physically connected. Certainly radio signals jump gaps obviously but
13 do they -- is there teaching of two parts that are physically connected as
14 claimed that have a contactless signal passing? And is there a problem that's
15 similar which would lead to this KSR concept of substitution of moving a
16 solution from one over to the other?

17 The teaching of using the transformer type inductive coupling does
18 not present a teaching of splitting the two coils, one to one part and one to
19 another part, and I know I'm going into coils and inductive and not so much
20 into fiber, but that's in fact what Applicant's admitted prior art is. Bahr on
21 the other hand is fiber, so I can go back to claim 1 and address the more
22 general concept of contactless, but I've been focusing a little bit on
23 inductive, because that is what the teachings are that are moved over.

24 There is also a -- no reference in that passage about infrared, but I
25 believe somewhere in there we've noted that -- well, you know, obviously

1 infrared is known generally, so I'm not really sure how the infrared claims
2 are addressed either by Applicant's admitted prior art.

3 So there is some discussion about the person of ordinary skill in the
4 art, and there is discussion of electrical engineering art, respiration art, that
5 they are someone with knowledge of the technology behind inductive
6 infrared contactless type interfaces. I think that it can be said that engineers
7 certainly are aware of the use of infrared certainly on television remote
8 controls, and fiber optic is certainly even discussed in Bahr, but the next
9 question is then to use that interface in a tube-to-sensor physical connection
10 and to have the sensor signal pass in a contactless manner.

11 There are numerous claims, so I'd like to with my remaining time just
12 go into some of the more particular claims. Certainly the line of claim with
13 the inductive interface I think is very interesting, because I do not believe
14 that the KSR citation is applicable to that line of claims, and the teachings
15 are general teachings, and as you get into claim 6, it's inductive, and then as
16 you get into the series of 7, it also supplies voltage. So this is something that
17 cannot happen with the signal line alternative of Bahr, and it is something
18 that's limited to an inductive interface where power can be supplied to the
19 sensor in a contactless manner without any feature of the tube being
20 damaged during the autoclaving or during high-temperature treatment.

21 Another claim which is, I think, very interesting is 18 where it brings
22 the system all together. This certainly highlights the distal end of the
23 breathing tube having the sensor and then the other end connected to the
24 respirator or ventilator, and that brings the problem and the solution into the
25 context of the claim with the various system features claimed.

1 I would like to then just say in closing that several claims but not in
2 the system claim, one claim, excuse me, has the -- well, claim 10 has the
3 respirator, and in claim 10 there is a second inductive interface. So this goes
4 to an inductive interface as well which differs, of course, from the other two.
5 We are making the arguments that these claims are patently distinct. An
6 inductive interface is patently distinct from a fiber optic interface. They're
7 not necessarily known as equivalents, and there's no teachings of them being
8 equivalent or that one claim should be considered to be patentably indistinct
9 from the others. So I wanted to highlight claims 6, 7 and 10 as going
10 towards inductive, going towards a use that was not in the general field of
11 Applicant's admitted prior art and also being closely related to the problem
12 which is related to respirators and the cleaning of breathing tubes and the
13 need to keep it relatively inexpensive if possible.

14 And thank you very much.

15 JUDGE GREEN: Any further questions? Any further questions?
16 If you could answer any questions that the court reporter may have, we can
17 then get started on the next case.

18 MR. MCGLEW: Yes, I'd be happy to. Thank you. Probably I can
19 spell everything except autoclaving. I'd have to look that up.

20 (Whereupon, the hearing concluded on August 4, 2009.)